Remarks

This communication is responsive to the Final Office Action of **March 27, 2009**. Reexamination and reconsideration of the claims is respectfully requested.

Status of Claims

Claims 1, 2 and 4-23 are pending for examination.

Claims 3, 24-27 were previously canceled.

Claims 1 and 21 are in independent form.

Summary of The Final Office Action

Claims 1-2 and 4-23 were rejected under 35 USC §103(a) as purportedly being unpatentable over Burbeck et al (US Pat. 7,143,139)(Burbeck), and further in view of Srivastava (US Pat. 7,047,315)(Srivastava).

Response

35 U.S.C. §103

Claims 1, 2, and 4-23 were rejected under 35 U.S.C. §103(a) as being purportedly unpatentable over Burbeck and further in view of Srivastava. Srivastava does not qualify as a reference under 35 U.S.C. §102(a) because Srivastava does not qualify as "by others". Srivastava does not qualify as a reference under 35 U.S.C. §102(b) because Srivastava was not published until it issued May 16, 2006, several years after this application was filed on 11/12/2003. Srivastava does not qualify as a reference under 35 U.S.C. §102(d) because the Srivastava application is a United States patent application. Thus, Srivastava only qualifies as prior art only under 35 U.S.C. §102(e). However, Srivastava was subject to an obligation of assignment to the same person (Cisco Technology Inc.) at the time the claimed invention was made and therefore does not preclude patentability of the subject matter as per 35 U.S.C. §103(c). For this reason these rejections should be removed. However, even if Srivastava did qualify as a reference, the Final Office Action fails to establish a prima facie case of obviousness because the combination of references (Burbeck and Srivastava) does not teach or suggest all the claim limitations. For example, none of the references, alone and/or in combination, teach "providing in a router a database of bindings of client devices to network applications to replicas of a network application."

The Final Office Action attempts to rebut issues raised in the previous response. Applicant previously argued that Burbeck does not disclose a database and that Burbeck defines the word "router" in his patent to mean "servlet". Applicant also previously pointed out that a servlet is an application run on a server to provide content and does not perform routing related tasks. However, the Final Office Action asserts both that "a router inherently exists a routing table (database) [sic]" (page 3,

paragraph 2) and that "Burbeck's router [is actually a router because it] includes a routing database as pointed out above." (page 3, paragraph 4). Saying that something with a routing database is inherently a router is incorrect. A general purpose computer may have a database of routing data based on connections the computer has open. In fact, this is important to Burbeck because peer-to-peer networks are a topology independent technology. A peer-to-peer network cannot possibly teach a router because a peer-to-peer network is a network of end nodes. Peers on the network are not concerned with the topology of the network (e.g., locations of routers) and are only concerned with the locations and data contained on other peers.

The application recites a network of servers hosting content connected to a series of routers and provides a way for a client to ensure that it connects to the same server so that session data is maintained. However, even though data between peers in a peer-to-peer network may pass through routers, a peer-to-peer network contains no routers itself and has nothing to do with routers. As stated in a previous response, Burbeck discloses "servlets," a server technology for providing content to clients. While in one description a router can be said to provide content, a "servlet" is an application that generates the content, while a router is responsible for facilitating transportation of the content from a source (e.g., a servlet) to a destination (e.g., a client). Simply because a servlet makes use of peer-to-peer based technologies does not make it a router. This is in part, because a servlet (and peer-to-peer applications in general) is an application layer (OSI model) technology and is not concerned with handling the passage of packets through a network.

The Final Office Action further asserts that "the combination of Burbeck and Srivastava references are functional because a service provider of Burbeck is functional equivalent to Srivastava's disclosures a plurality of routers that also allow client identifiers to be bind with server/router identifiers [sic]." As described above, a

router is not a service provider. A server creates data to be provided to a client, and a router transports the data to the client from the server.

To establish a prima facie case of 35 U.S.C. §103 obviousness, basic criteria must be met. The prior art references must teach or suggest all the claim limitations. MPEP 2143.(A) Section 2131 of the MPEP recites how "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). This same standard applies to 103 rejections as evidenced by Section 2143(A) of the MPEP, which reads: "The rationale to support a conclusion that the claim would have been obvious is that **all the claimed elements** were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions". As stated above, none of the references, alone and/or in combination, teach "providing in a router a database of bindings of client devices to network applications to replicas of a network application."

Bindings of client devices to network applications to replicas of network applications occur within a database. The Final Office Action's interpretation, that a web service is equivalent to a database is not reasonable. A database of bindings does not impart the meaning suggested by the Final Office Action.

The MPEP requires that:

> During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." >The Federal Circuit's *en banc* decision in *Phillips v. AWH Corp.*, 415 F.3d

1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the "broadest reasonable interpretation" standard:

> The Patent and Trademark Office ("PTO") determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction "in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[70 USPQ2d 1827] (Fed. Cir. 2004). Indeed, the rules of the PTO require that application claims must "conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description." 37 CFR 1.75(d)(1). (MPEP 2111)

The Final Office Action attempts to equate a web service with the database bindings. A web service "is an interface that describes a collection of network-accessible operations." (Burbeck Col. 6 lines 38-40). As provided by Burbeck a web service is an application, **not a database** with bindings relating a client device, network application, and replica network application. Burbeck teaches the use of a peer-to-peer web service to facilitate file sharing.

> Web services technology is a mechanism which is known in the art for distributed application integration in client/server networks such as the World Wide Web, and enables distributed network access to software for program-to-program operation in these networks. Web Services leverage a number of open web-based standards, such as HTTP, SOAP and/or XML... (Burbeck Col. 6, lines 56-62)

One of ordinary skill in the art would appreciate that a database binding data element is not equivalent to a web service. A web service provides application services while a database relates and stores information. Nothing in Burbeck teaches a database that relates the three elements that are claimed. The Final Office Action asserts that Burbeck discloses "binding one of the client nodes with a

storage" at column 5, lines 45-49. However, even if a web service is a "Storage Service Provider" in a "Storage Area Network," it is still a web service, and not a database of bindings. A storage area network is used to store data for a long period of time (e.g., data backups) and is not a database of expiring data that is used in routing.

Page 4 of the Final Office Action states:

> providing in a router a database of bindings of client devices (i.e. binding or selecting a persistent node identifier and reputation information then assigning to each network participant so that the node identifier can be identified and connected to the associated database, col. 4, ll. 60-67) to network applications to replicas of network applications, where the session includes a session state, a three way binding includes a binding expiration time (i.e. within a configurable time interval allowed, col. 3, line 25),

The Final Office Action makes no citation or explanation of how the combination teaches the limitations of "to network applications to replicas of network applications." The Final Office Action excises these claim limitations from the explanation and cites Burbeck as teaching only "providing in a router a database of bindings of client devices."

The cited passages of Burbeck do not teach a binding for a client device in a database. Burbeck teaches a two way binding that facilitates identifying a **peer** that may move around in a peer-to-peer (P2P) network. The two way binding includes an IP address of the peer, a date, a time, and a domain. The two way binding does not include a client device identifier. "A persistent identifier is assigned to each network participant, i.e. node, such that the node can be identified after it leaves and re-enters the network." (Burbeck Col. 6, lines 61-63). The Final Office Action argues that this passage of Burbeck teaches a client device identifier. However, from Burbeck's own explanation it is clear that each peer node is represented by an IP address and a domain name. In Burbeck, there is no association between a

client node and any of the other nodes. The claim requires three distinct elements bound via the database. However, each record of Burbeck contains only two elements of the required elements, a node IP address and a domain name of a peer. Nothing in Burbeck teaches binding these two elements to another address identifying the client node.

Burbeck provides a more detailed explanation of this teaching at column 12, lines 7-56. The following table provides a sentence-by-sentence analysis of this passage.

Burbeck Col. 12 lines 7-56	Teaches database in a router?	Teaches bindings of client devices to network applications to replicas of a network application?
According to preferred embodiments, transient nodes in a P2P network are identified using a linkbase identifier ("ID"), or "LBuuid", where this LBuuid has the form: [IP_Address-Date-Time-Domain]	NO	NO
and is modeled on the concepts of Universal Unique Identifiers, or "UUIDs". UUIDs are known in the art as a technique for uniquely identifying an object or entity on the public Internet. (However, the LBuuid format is not known. Prior art UUIDs typically comprise a reference to the IP address of the host that generated the UUID, a timestamp, and a randomly-generated component to ensure uniqueness.)	NO	NO

As an example of the LBuuids disclosed herein, the node represented by the sample reputation in document 400 of FIG. 4A has the LBuuid 9.37.43.2-05/04/01-12:02:05:37-Netzero.net which is shown as the value of the "about" attribute 410 of <Description> tag 405.	NO	NO
In this example, the IP address component is "9.37.43.2", the date component is "05/04/01", the time component is "12:02:05:37", and the domain component is "Netzero.net".	NO	NO
As defined herein, this information indicates that the node's original IP address upon its first entry into the P2P network was "9.37.43.2", and that this initial entry into the network occurred on date "05/04/ 01" at time "12:02:05:37" in the network domain "Netzero.net".	NO	NO
This LBuuid will be used for identifying this particular node henceforth, as disclosed herein, enabling the node's reputation to be persisted and also allowing references to this node in content path traversal definitions to be resolved.	NO	NO
Note that, at a given point in time, the current IP address of the node represented by the LBuuid in FIG. 4A is not guaranteed to be that indicated in the LBuuid, and is more than likely some other value obtained from a dynamic address assignment mechanism upon a subsequent entry into the P2P network.	NO	NO
The LBuuid persistently representing a node is associated with the node's current IP address through a mapping stored in a resource set. (Resource sets are described below, with reference to FIG. 6.)	NO	NO

The <Description> tag 405 brackets the reputation information for this node. In the example, a child tag named <QuerySet> 415 is specified, and has a "stature" attribute.	NO	NO
In preferred embodiments, the stature attribute has a numeric value that indicates how successful (or unsuccessful) this node is at performing queries.	NO	NO
The stature attribute value is preferably specified as a non-integer value ranging between -1 and +1, where a negative stature value indicates a malicious node. Preferably, a corresponding "totalQueries" attribute is also specified, and its value is an integer indicating the total number of queries processed by the node.	NO	NO

A binding of a client device to a network application to a replica of a network application is a singular limitation made up of multiple address elements. In order for the references to teach this limitation there must be a teaching of the claimed relationship. The combination fails to teach the relationship between the three elements of the database specified in the claim.

The Final Office Action further states at page 6 first paragraph:

> Srivastava discloses a plurality of routers (abstract) that also allow client identifiers to be bind with server/router identifiers (replicas) (col. 4, ll. 59-63).

The cited portion of Srivastava states:

> To address this problem, in an embodiment, a mapping of a client identifier to a server identifier is stored at the client side and server side in cookies. The cookies enable a device to determine if a new request has a past association with previous flows or a previously selected server.

The claim states "providing **in a router a database of bindings** of client devices to network applications to replicas of a network application." (emphasis added). Srivastava does not teach a binding between the three elements as claimed. Srivastava teaches a two way binding. The two way binding of Srivastava relates a client identifier with a server identifier. While Srivastava does teach a client identifier it does not teach the binding between all three elements as required by the claim.

Additionally, the binding taught by Srivastava "is stored at the client and server side in **cookies**." (emphasis added). Storing the elements in a cookie at either terminal location of a network path is not equivalent to storing the bindings in a database in a router.

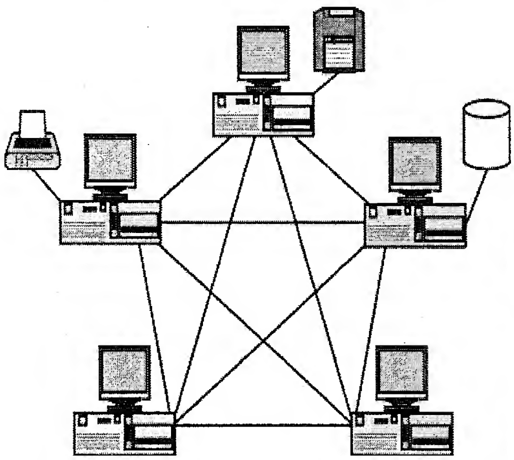
Burbeck also fails to teach a router with a database. Burbeck states:

> A servlet called a "router" receives an inbound SOAP request message, determines which code is required to carry out that request, deserializes objects required for that code, and invokes the code. When the invoked code completes execution, the router serializes the result into an outbound SOAP response message. (Burbeck Col. 9, lines 1-8)

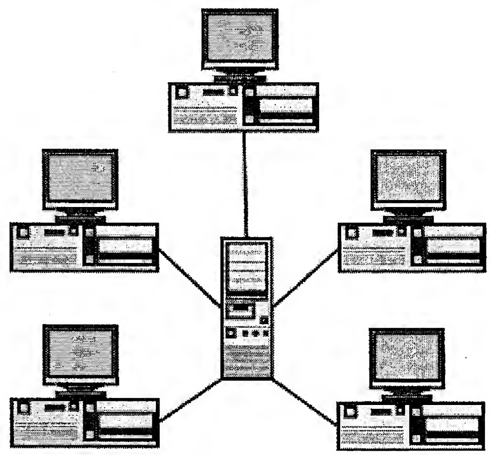
Burbeck acts as his own lexicographer in characterizing a servlet as a router. As one of ordinary skill in the art would appreciate, a router as used in Applicant's claim refers to a network device used to route and forward information in a network between network devices. A servlet "router" is not equivalent to a router as claimed. The servlet "router" is a script that runs on a web server in order to provide content. The servlet router is not a device for routing and forwarding information as commonly understood in the art. Being a servlet, it would likely be physically impossible to provide a database in the "router" implemented as a servlet. The servlet would simply not have the resources to maintain a database. Therefore, both

Burbeck and Srivasta fail to teach a router with a database. Thus, the claims are not obvious over the cited art.

The technologies described by Srivastava and Burbeck are incompatible and cannot be combined. Further, neither of these references describes the network architecture described in the application. Burbeck teaches a peer-to-peer network for file sharing while Srivastava teaches a client/server network configuration.



Peer-to-Peer (P2P)



Client/Server

> The advantageous techniques of the present invention are discussed herein primarily as applied to file sharing (i.e. identifying which content is available from which nodes; remembering the path taken by particular content as it traverses the network; requesting content from a peer, and receiving that content; etc.) (Burbeck Col 6 lines 27-33)

> [A] method of routing data from a client through one or more load-balancing routers to a selected load-balanced server among a plurality of servers in a network. (Srivastava Col. 5, lines 30-32)

A person having ordinary skill in the art would not seek to combine a peer-to-peer technology and a client server technology. This is in part, because peer-to-

peer networks have increased storage and processing capabilities as the number of peers increases. In a client-server architecture, though typically more controllable and secure from the standpoint of the owner of the servers, adding a client does not introduce more resources to the network. Additionally, it is impossible to perform load balancing on the peer-to-peer file sharing connections taught by Burbeck. The purpose of the system taught by Burbeck is to allow peers to leave and re-enter the network without losing their identities. In Burbeck the peer-to-peer connection is used to retrieve specific data from a specific source. In Srivastava, specific content is retrieved from a selected one of a plurality of sources based upon the load of each server at the time of a request. Combining Srivastava with Burbeck would complicate the purpose of Burbeck and not allow Srivastava to serve its intended purpose of load-balancing. Srivastava would be unable to perform load-balancing since each peer does not serve the same content and is therefore not capable of accepting load-balancing connections. Each peer in a file sharing network serves unique content. Therefore, a request to a specific peer can only be successfully handled by that peer. Thus the combination of Burbeck with Srivastava is not functional.

For the above reasons, none of the claims are obvious over the combination of references. Thus, all the claims in condition for allowance.

Claim 5

This claim depends from claim 1 and thus is not obvious for at least the same reasons. Additionally, this claim recites entering or discarding a received update based on whether the least recent event number is in series with the event numbers in the database and/or is not in succession to the event number in the current version vector. Since none of the references describe providing the database of

bindings in a router, it follows that none of the references describe the contents of the vector that is stored in the database. Thus it also follows that none of the references describe selectively entering or discarding a received update based on analyzing the contents of a received entry in light of the missing database records. Therefore this claim is not obvious for at least this additional reason.

Claim 6

This claim depends from claim 5 and thus is not obvious for at least the same reasons. Additionally, this claim recites retaining an entry based on a deterministic function applied to a portion of an entry only after it has been determined that the entry is in sequence and that the received entry has not expired and that the application identifiers do not match. None of the references teach any of these additional elements and therefore this claim is not obvious for at least this additional reason.

Claims 7 and 8

These claims depend from claim 6 and thus are not obvious for at least the same reasons. Additionally, these claims recite applying the deterministic function to either the application identifiers or the request identifiers. As described above, none of the references describe applying any deterministic function, and thus it follows that none of the references teach the additional limitations of applying the missing deterministic function to data items that are not described in the references. Thus these claims are not obvious for this additional reason.

Conclusion

For the reasons set forth above, **claims 1-2 and 4-23** patentably and unobviously distinguish over the references and are allowable. An early allowance of these claims is earnestly solicited.

Respectfully submitted,

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